

Name:- Nikhil Kumar  
 En Branch:- CSC I  
 Course Title:- Software Engineering.  
 Course code:- CS 6402

Roll no:- 1806055  
 program code:- un-23  
 Exam Date:- 21/05/21

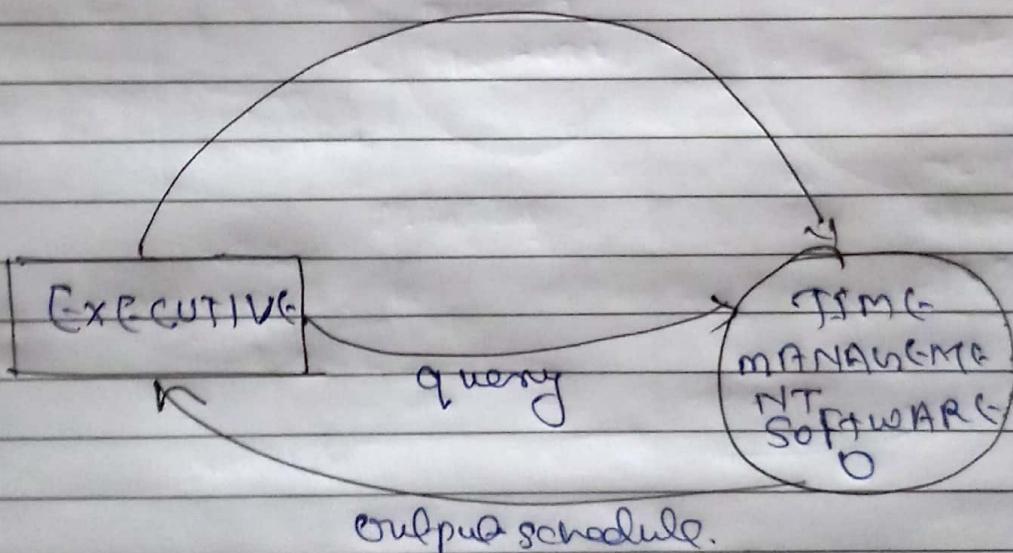
Q1

The DDSFORIGNE STATED PROBLEM ARE:-

Ans:-

Context Diagram:-

appointment details

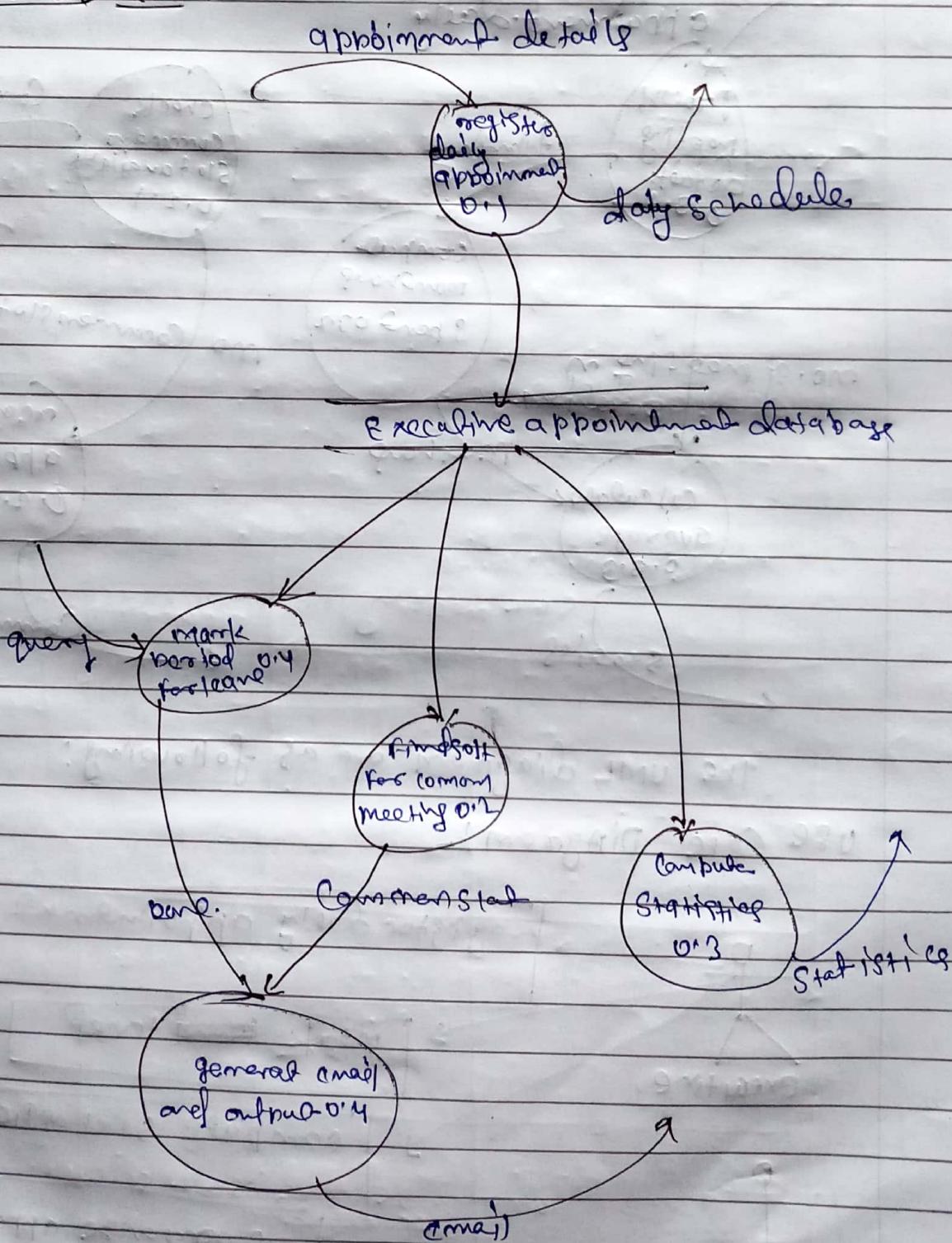


level 0 (context diagram)

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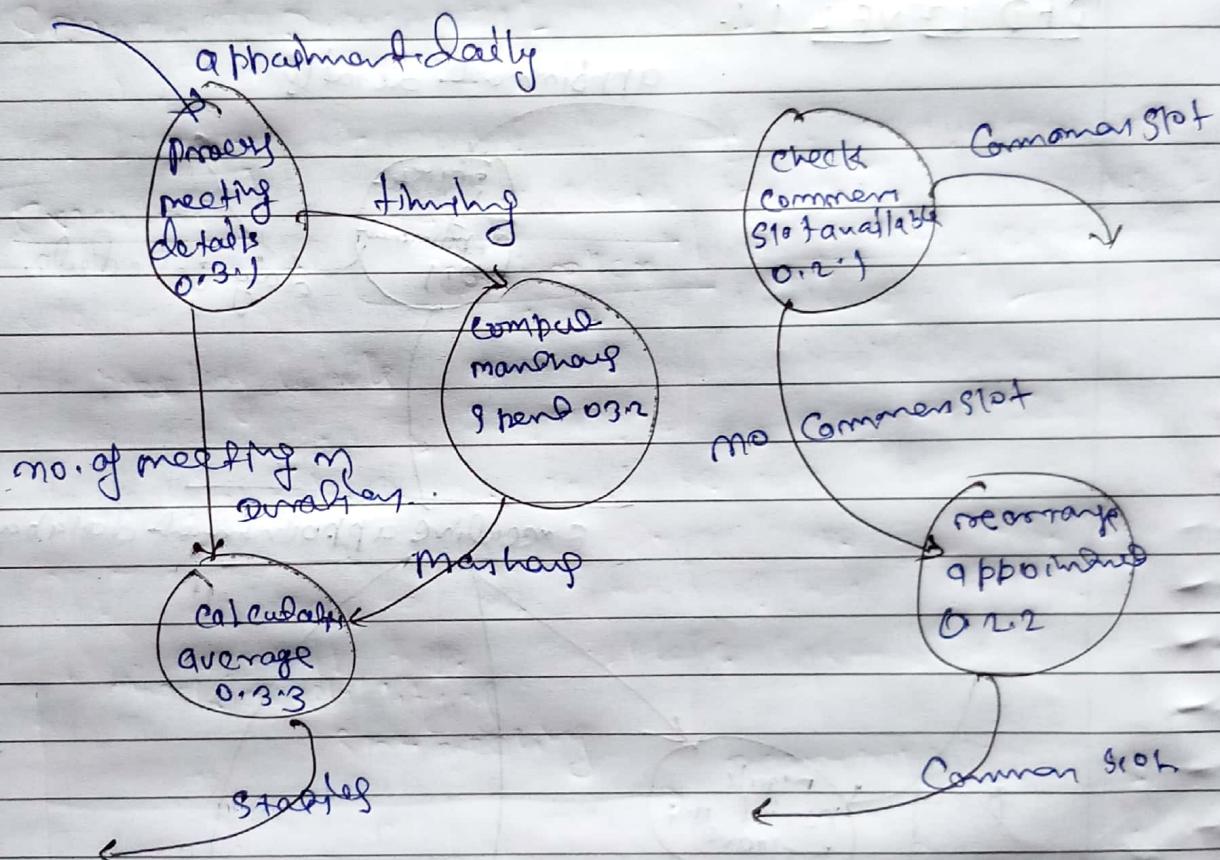
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### DFD LEVEL 1 :-



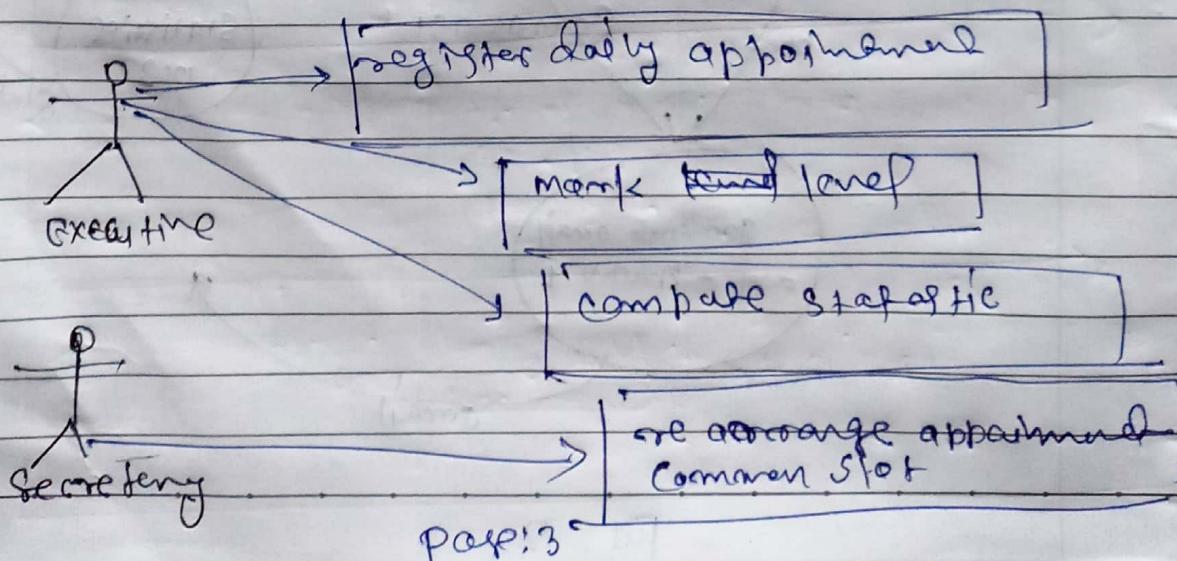
Name :- Neelkumar kumar Roll no :- 1806055  
 Branch :- ECE program code :- VH-ECS  
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DFD Level 2:-



The UML diagram are as following:

use Case Diagram:-



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### Executive

Name : String

Address : String

Employee\_no : Integer

Level : Double

### Meeting

executives : String

v\_callee : String

duration\_of\_meeting

meeting\_purpose : String

type\_of\_meeting

### Executive\_email

information : String

general\_mail() : void

### Object Diagram

#### (Executive)

Ramesh Dev

A-937 Salt lajca

Ramesh@gmail.com

101

Nil

#### Meeting

Ramesh Dev

nitin bhan

re concretely

n.s sharma

g

#### Executive\_email / daily attachment

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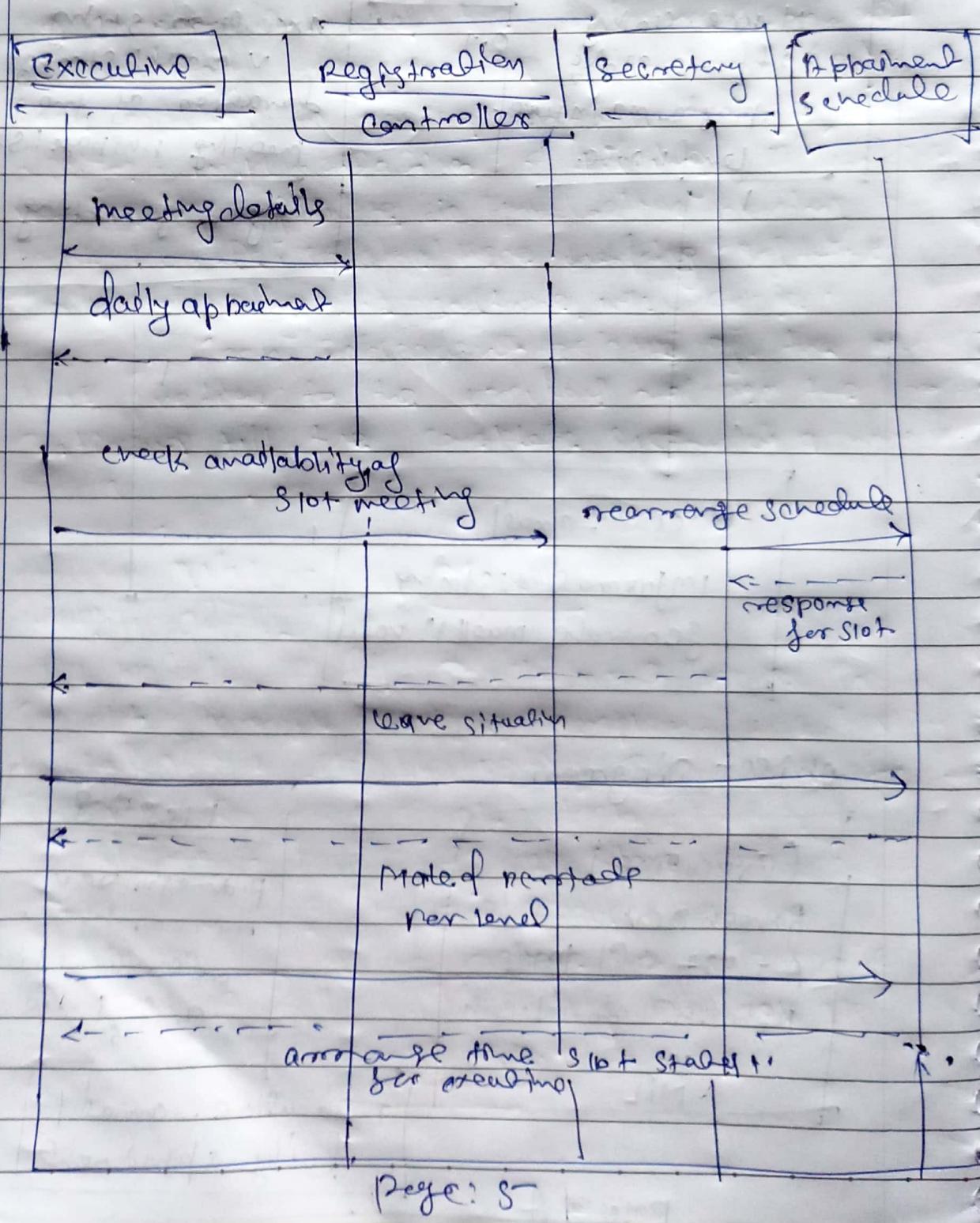
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## Sequence Diagram:-



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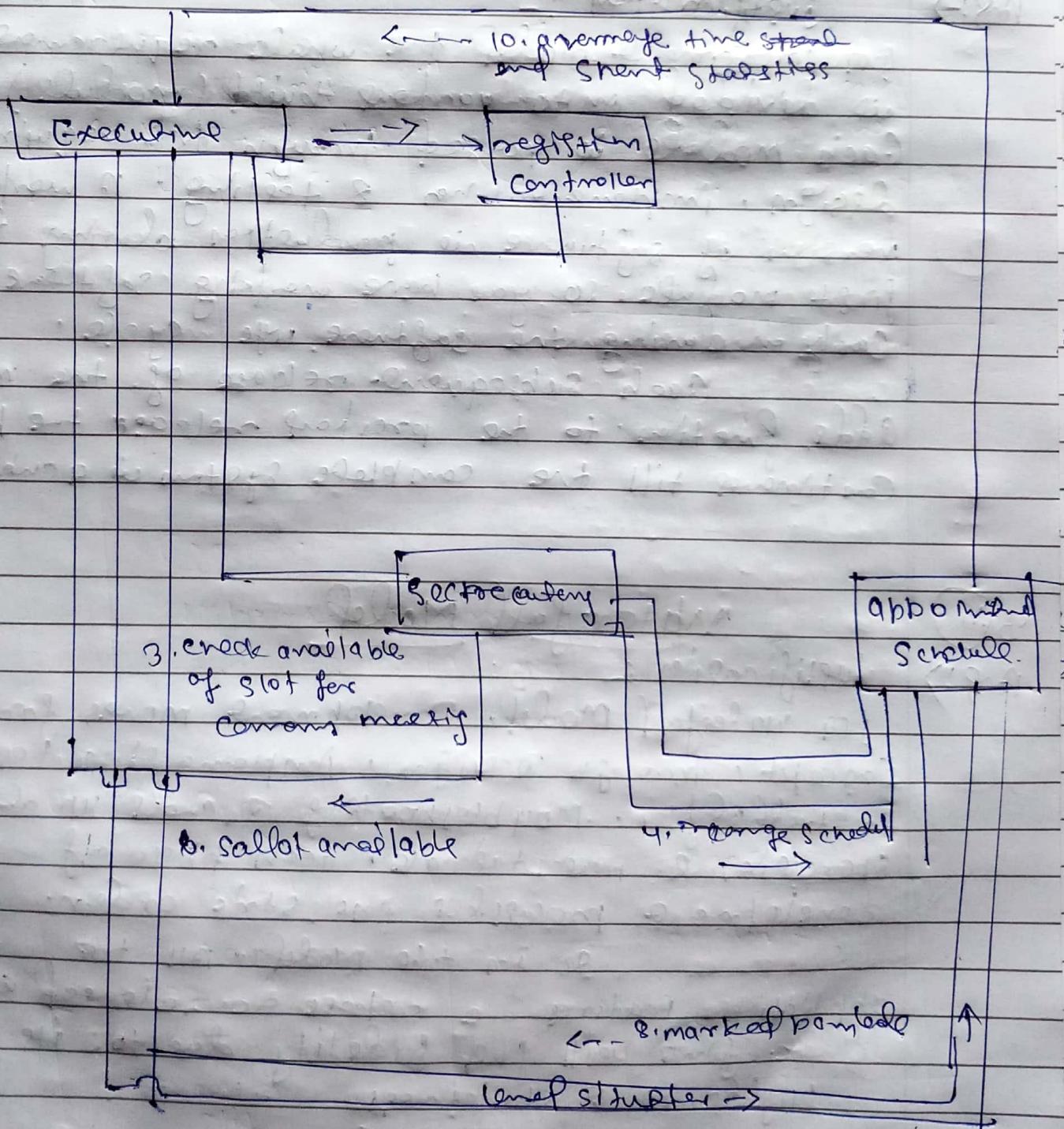
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### Collaboration Diagram :-



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Q2

Ans:-

System the schedule of planned, the 18 tasks  
of that should have been completed add upto  
156.5 monday.

However, only 12 tasks have been completed  
from 12 tasks valid upto 126.5

more days

rate gives the a schedule stipulation of  
20 monday

• the average cost of single person day  
is ₹ 9800 and there are 20 employees.

∴ cost of single day =  $20 \times 9800$

$$= \boxed{196000}$$

for 30 day, the total cost is  
 $196000 \times 30$

$$= \boxed{5880000}$$

Since the cost will be increased if  
the project is delayed beyond the deadline  
As a first step, the project schedule must  
be networked to account for tasks that  
take off time from planned.

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As the schedule shows certain topics have been taken less time than planned.

Another step could be considerably increasing free time.

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Q3(a)

### Incremental model

Ans:-

Justification:-

In Increment model the whole requirement is divided into various build (modules). Each module is passed through the requirement design, implementation & testing. It working version of software ie product has during the first module. So you have working software early on during the software life cycle.

Each subsequent release of the model adds features to the previous release till the project continues till the complete system is achieved.

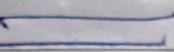
3.b

### Waterfall Model

Ans:-

In waterfall Model, development moves from Concept, through Design, Implementation, Testing & Deployment. Troubleshooting & ends up at operations & maintenance. Each phase of development process follows strict order.

So in this Model, All the application features are released at the same time with full fidelity due to its Rigidity & Strictness.



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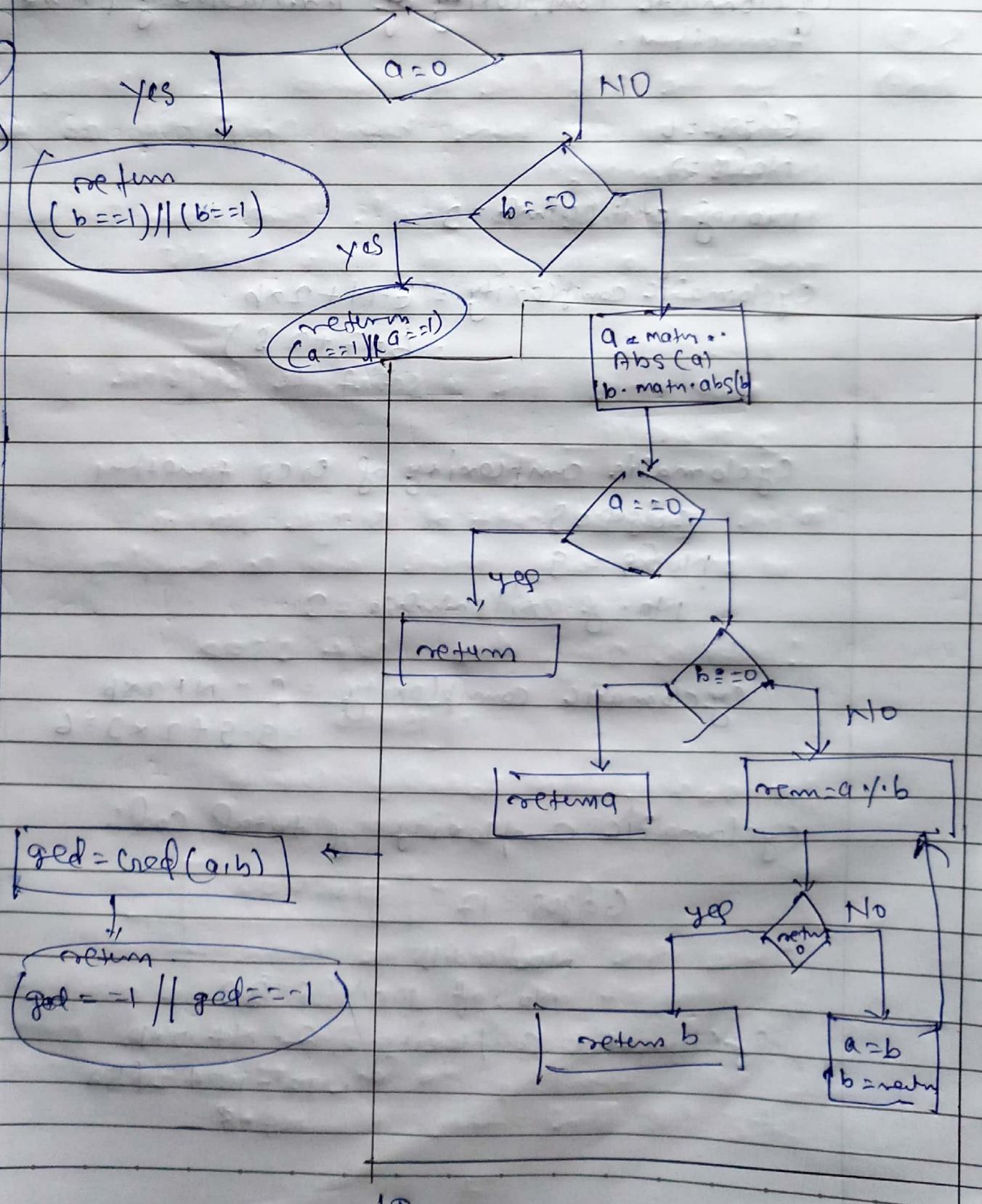
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Cyclomatic complexity of relatively prime function.

Edges = 6

Nodes = 7

No. of exit points = 3

$$\begin{aligned}\text{Cyclomatic complexity} &= E - N + 2 \times b \\ &= 6 - 7 + 2(3) \\ &= 7\end{aligned}$$

Cyclomatic complexity of gcd function

Edges = 9

Nodes = 9

No. of exit points = 3

$$\begin{aligned}\text{Cyclomatic complexity} &= E - N + 2 \times b \\ &= 9 - 9 + 2 \times 3 = 6\end{aligned}$$

Cyclomatic complexity of total cod.:

Edges = 17

Nodes = 15

No. of prims = 3

$$\begin{aligned}\text{Cyclomatic complexity} &= E - N + 2 \times b \\ &= 17 - 15 + 2(3) \\ &= 8\end{aligned}$$

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Test suit :-

Test - case : 1       $a = 0, b = 1$

Test - case : 2       $a = 2, b = 0$

Test - case : 3       $a = 6, b = 2$

Test - case : 4       $a = 6, b = 5$

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(Q5)

(a)

→ Process improvement programme are introduced to improve product quality, reduce waste and accelerate schedule whereas, dehumanization attitude are often used as an acceptable and even necessary strategy for pursuing research and organizational goals. Dehumanizing are necessary to help us make better decisions and improve our problem solving capacity. But, there all have some negative consequences, so process improvement program should not be inherently dehumanizing.

Resistance to a process improvement can be of following:

① Organizational factors are factor which are related to the scope of the organization. There are further sub-classified

→ Human :- lack of professional skills and experience.  
 • lack of leadership and back up management levels  
 • lack of adequate training  
 • lack of extremes in quality policy.

→ Political :- lack of establishment of organization policy  
 • lack of establishment of quality policy

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→ cultural :- lack of expertise in cultural changes

→ goals :- lack of consistency between software process improvement project and organization's objective.

(2) project functionality :- these reflects an ongoing project which contributes and gives compact summary of the software process and it involves contribution from all level personnel managing these include:

- budgets and estimates
- documentations
- quality
- tools and technology.

(b) yes we can use tools in re-use, reverse engineering for example:- Database management system (DBMS) or object-oriented based software system tools are where we can use reuse tools for halting future maintenance costs by 30% to 70% and can get remarkable productivity. Particularly in reuse engineering of files and databases, these tools bring systems from their physical implementation level to structured analysis and then design from there they can be logically implemented.